Exploring Aesthetical Gameplay Design Patterns – Camaraderie in Four Games

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ABSTRACT
This paper explores how a vocabulary supporting design-related discussions of gameplay preferences can be developed. Using the preference of experiencing camaraderie as an example, we have analyzed four games: the board games *Space Alert* and *Battlestar Galactica*, the massively multiplayer online game *World of Warcraft*, and the cooperative FPS series *Left for Dead*. Through a combination of the MDA model on how game mechanics give rise to game aesthetics via game dynamics, and the concept of aesthetic ideals in gameplay, we present gameplay design patterns related to achieving camaraderie. We argue that some of these patterns can be seen as *aesthetic gameplay design patterns* in that they are closely related to aesthetic ideals. Further, as a consequence, gameplay design pattern collections which include patterns related to all levels of the MDA model can be used as design tools when aiming for certain gameplay aesthetics.

Categories and Subject Descriptors
J.3.3 [**Personal Computing**]: General – *games*

General Terms
Design

Keywords
Gameplay, Aesthetics, game design, design patterns, gameplay design patterns, Mechanics-Dynamics-Aesthetics.

1. INTRODUCTION
How can we design gameplay aimed at certain groups' tastes or wishes, especially when those taste differs from our own? We see this question being related to the aesthetics of gameplay, since it is related both to personal taste and how individuals perceive experiences. This paper presents one possible answer: providing concepts related both to gameplay and aesthetics in order to help clarify reflections and discussions on the intended experiences.

The paper begins by discussing the concepts of aesthetics and gameplay, combining our findings into a suggested design tool: that of using gameplay design patterns to describe aesthetic design possibilities. This tool is then applied and exemplified by analyzing four games designed to promote camaraderie between players – i.e. encourage active cooperation and invoke the feeling of togetherness – to identify how specific game mechanic choices can lead to the intended overarching experiences. We end by describing the aesthetic gameplay design patterns found and how these can be used when aiming for camaraderie in a game, as well as how the approach suggests new pattern use more generally.

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1.1 Aesthetics
Aesthetics is a matter of taste. Just like it is impossible to find a painting that is liked by everyone, there is no way to design a game and be certain it suits everyone. In most disciplines, years of praxis has resulted in design approaches to achieve outcomes according to specific ideals. This knowledge has been used to understand the aesthetics of games, e.g. taking the understanding of aesthetics from drama [32] and movie making [34] and applying it on games. However, there is one aspect of game design where it is *not* possible to rely on aesthetic notions from another discipline, namely *gameplay* design.

There is no consensus regarding the notion of aesthetics; originally it related to perceptions [40] but was later associated with beauty, judgment, and taste (e.g. [16][20]). While some state that aesthetic properties are inscribed in artifacts independent of context [33], Dewey claimed that aesthetics related only to *experiences* significant to people's memories: "*that meal, that storm, that rupture of friendship*" [9]. In this paper, we align ourselves with the view of Dewey and others (e.g. [37] and [38]), rather than discuss games in terms of beauty or whether they are or can be art (e.g. [35] and [39]). However, we note that our design-oriented approach leads to a focus on the intended aesthetics, and thus experiences. It is thus worth noting that Dewey's view from that respect coincides with the psychological concept of flow [8], which is often used to describe the intended goal of gameplay design.

1.2 Gameplay
Gameplay has been defined in a number of ways; e.g. Lindley [29] proposes the idea of a "gameplay gestalt" while Björk and Holopainen [5] propose that it is "*the structures of player interaction with the game system and with the other players in the game.*" Walther [42] in turn describes the concept in terms of actualizations of specific rules and interactions as well as realizations of plans. These views on gameplay can be useful for understanding games and distinguishing gameplay from other ways of interacting with games, but they do not detail specific aspects of gameplay and are thus not design tools.

Design patterns on the other hand, are design tools used in e.g. in architecture [1] and programming [11], and have been introduced to gameplay design by Kreimeier [22]. Björk and Holopainen

have made a collection of close to 300 interrelated patterns, describing them as "*a part of the interaction possible in games*" [5]. The patterns support design and analysis by giving names to design possibilities that can be relevant to the gameplay in many types of games, and point to further issues to consider through relations to other patterns. As descriptions of possible gameplay, the value of any given pattern is a combination of the precision it affords in expressing ideas about gameplay specifically and how easily these ideas can be communicated to others; for this reason most of the patterns are based upon concepts already in the everyday vocabulary of game designers and players, e.g. FOG OF WAR, LEVELS, and BLUFFING (throughout this paper patterns are denoted using small caps). However, since novelty is also a part of the value of an idea, some patterns can also be valuable by pointing to unexplored areas of the design space of games even when this makes the patterns only interesting for smaller groups.

There are several other approaches similar to the gameplay design patterns, e.g. the game ontology project [44] which uses a hierarchical structure to describe gameplay elements from the perspective of players, but this structure offers no natural point for a general aesthetic expansion. The 400 rules project [10] collects knowledge from professional game designers in the form of normative rules which means that it already implicitly expresses an aesthetic viewpoint by having normative views of what game design "should" contain, hence not supporting alternative views.

1.3 Gameplay and Aesthetics

Several researchers have studied the relation between the game phenomena and aesthetics. An early example comes from Bartle [2], who identified four categories of player types from looking at behaviors in text-based multiplayer online games. Later, Yee [44] conducted a 3-year study collecting data from over 5000 gamers in MMOGs, and identified five distinct factors for gaming. Both these indicate that players have different tastes in gameplay but do not focus upon how to design gameplay to support them. Instead beginning from games, Holopainen [15] argues that games are caricatures, and gameplay consists of caricatures of action and goal structures that support intentional activities. Similarly, Juul [17] argues that games are stylized and abstracted simulations that players explore. In a similar vein, Grodal [13] describes video games as "*simulations of basic modes of real-life experiences*". These views argue that gameplay structures are based on sensory, cognitive, and affective capabilities. For the context of this paper, this points to a possibility of explaining gameplay aesthetic ideals from psychological or neurocognitive basis.

Genres classify games based upon their characteristics, and are typically used by gamers and publishers to identify possible game preferences. Wolf [43] describes 42 genres taken from video games while the web site boardgamegeek [6] proposes 78 different categories for board games. Since many genres are defined from game mechanics, they do suggest design features but they are not described in a fashion explaining how games can be created to have these mechanics. Similarly, Lindley et al. argues that understanding gameplay from an aesthetic point requires comparative studies of designs [29]. Similar to the case with genres, this allows descriptive and comparative stance towards gameplay but does not necessarily explain *why* they are structured that way and how to reproduce these structures.

Looking at how gameplay structures influence gaming, LeBlanc introduces the layered Mechanics-Dynamics-Aesthetics (MDA) model [27]. The first layer consists of the game mechanics, which LeBlanc compares to the code of a computer program. From the mechanics emerges the second layer, the game dynamics, which is how the game behaves or "runs" when it is played in the same fashion a running program can have be seen as a process having certain behaviors. Dynamics thus often result in interactions between user and game (e.g. moving), between users but mediated by the game (e.g. trading) or lastly even user-user interaction regardless of the game mechanics (e.g. experienced players giving novices advice). From the dynamics one reaches the aesthetics of the game, described as "*the desirable emotional responses*" – i.e. the emotions and phenomenological content of the game which LeBlanc draws a parallel to the requirements of a program.

Starting from the perspective of gamers, Lazzaro [26] identifies 4 "keys" to evoke emotions through games, of which *Hard fun* (similar to Tempting Challenge [30]), *Easy Fun* (e.g. exploration or delight) relate to gameplay. Perhaps more interestingly, she mentions several specific emotions, e.g. *Schadenfreude* (German: the delight in others' misfortune). Through these, she points towards a broader awareness of different types of experience in games. Looking at the two previous examples, Järvinen [19] observes that "*it is not clear, at least in academic terms, what they actually describe: enjoyment, moods, emotions, pleasures, or something in between*." In his own framework, aesthetics is one of the types of emotions emerging from gaming and notes that aesthetical appreciation in games includes appreciation of events and agents. Following Kubovy's [23] analysis Järvinen states that the emotional responses triggered and modulated during gameplay can be considered to be part of aesthetic experiences.

Wishing to balance the goals of starting from a game mechanic to understand aesthetics (like some genres), and describing aesthetics from players' preferences, we have previously introduced the concept of ideals to discuss the aesthetics of gameplay [30]. Building upon the views of Järvinen and LeBlanc, this earlier work explores how different combinations and realizations of gameplay properties (such as "integrated theme" or "micro management") can be used to achieve aesthetic gameplay ideals, e.g. reenactment (such as war games simulating historic events), pottering (micro-management games such as Railroad Tycoon or the Sims), or mediation games (e.g. Solitaire or Bejeweled). Furthermore, the concept of aesthetic gameplay ideals provides a theoretical – and neutral – reasoning on gameplay aesthetics that can be used to explore questions of why someone thinks a game is well-designed or "good". Being aware of someone else's aesthetic ideals helps when suggesting games to them, or designing games for them, regardless of one's own preferences.

2. AESTHETIC GAMEPLAY PATTERNS

Given the related work mentioned above, one can conclude that it is possible to view gameplay aesthetics as something related to the experience of playing a game; that the aesthetics occur during play. This aligns with Dewey's idea on aesthetic experiences as being significant, coherent experiences [9]. Combining this with the opinion that design is about aiming for an experience rather than explicitly being able to design it (an idea common within interaction design, e.g. [3],[24],[31],[37]), we see aesthetic gameplay design as designing games explicitly to afford certain emotional experiences.

Most of the previous work exploring aesthetics and gameplay is not focused upon supporting the specific explorations of design possibilities. We suggest that gameplay design patterns are suitable for this purpose, and base this on three notions. Firstly,

gameplay design patterns have already been used to explore both specific and general aspects of gameplay and thus can describe both concrete and abstract levels of it, although that they currently lack structures invoking aesthetic considerations. Secondly, LeBlanc's model [27] describes how aesthetic aspects can arise from dynamic and mechanical aspects. Thirdly, our work on aesthetic gameplay ideals [30] showed that conceptualization of aesthetic gameplay preferences can be done, and can be expressed as a combination of gameplay properties. In combination, these notions suggest that the use of gameplay design patterns could be expanded to include aesthetic considerations. Following LeBlanc's classification, we see patterns directly related to game components and rules as mechanical patterns, whereas more complex behaviors that emerge from mechanical patterns are dynamic patterns. On the most abstract level we find the aesthetic patterns, which related to the experiences that occur throughout the game as a result of the mechanical and dynamic patterns.

A review of Björk and Holopainen's [5] collection of gameplay design patterns revealed that the majority of them relate to mechanical or dynamic aspects and that their described interrelations indicate how mechanical patterns can evoke dynamic ones. This confirmed that it was possible to superimpose LeBlanc's structure on the gameplay design patterns collection. It also indicated that the structure could be used to suggest aesthetic patterns after first identifying mechanical and dynamic ones, something that was supported when some patterns, e.g. TENSION, were identified as being aesthetic.

3. EXPLORING AESTHETIC GAMEPLAY

To follow the cause and effect chains LeBlanc suggests, four games were analyzed to see if patterns on all of LeBlanc's levels could be found, and if they could be related to each other as being mechanical leading to dynamic leading to aesthetic patterns. The aesthetic gameplay ideals found in our previous work [30] were here seen as a way to focus the exploration, and the ideal chosen to study was camaraderie – the satisfaction of working together and accomplishing things as a group. This ideal was chosen partly because togetherness had been the focus in earlier work [21]. Also, familiarity with research in other sciences could provide concepts and starting point for the analysis of camaraderie, e.g. mechanisms of group formation and cohesion [14], social influence in group behavior [12][36], the idea of social referring to tracing connections, and even understandings of social cognition based on neuroscience [7].

The iterative analysis was based on the three researchers' own experience of the games (ranging from hundreds of hours to a substantial familiarity for each game) supported by information included in the game or contributed by players on online sites[1], and other writings. Each of the games was first harvested for patterns previously described (in the case of *World of Warcraft* and *Battlestar Galactica* this was not done exhaustively due to the complexity of the games). In the first iteration focus was on finding mechanical and dynamic patterns, but as a side-effect several new potential patterns were found. These patterns were then compared to each other to find overlaps, inconsistencies, and redundancies which led to some splitting and merging of candidates. Patterns not deemed by consensus to be conceptually stable, or not directly concerned with camaraderie, were removed. In the second iteration the aim was to find potential aesthetic patterns and took the gameplay properties related to the previously identified ideals [30] as starting points. These patterns found in this iteration were then subjected to the same reviewing process as the candidates from the first iteration. Next, the analysis turned to focus on comparing the findings between the games, which often revealed new aspects as well as required generalizations. This in turn required that the identified pattern collection was scrutinized again for consistency which directed the investigation toward identifying if their relations matched the suggested causalities of the MDA model. Besides confirming this assumption, it also reaffirmed some already discovered relations. The analysis was considered saturated when the only new patterns to emerge were regarded as being too specific and when all relationships issues had been resolved.

Most patterns mentioned below have already been described in the existing pattern collection [5], but the following are previously unpublished: the mechanical patterns ACHIEVEMENTS, HELPLESSNESS, MUTUAL ENEMIES, NON-DIEGETIC ELEMENTS, PVE (Players vs. Environment), SELECTABLE FUNCTIONAL ROLES, TRANSFERABLE TOOLS and UNMEDIATED SOCIAL INTERACTION; the dynamical patterns EXCLUDING GROUPS, INHERENT MISTRUST, SABOTAGE, SIMULTANEOUS CHALLENGES, TEAM COMBOS and VIRTUAL CO-PRESENCE; and the aesthetical patterns GUILTING, MUTUAL EXPERIENCES, MUTUAL FUBAR ENJOYMENT[2], SPECTACULAR FAILURE ENJOYMENT, TEAM ACCOMPLISHMENTS and TEAM STRATEGY IDENTIFICATION. Due to space limitations, only the aesthetic patterns will be described in this paper, the others are explained through their context in the case studies.

3.1 Case Study: Space Alert

Space Alert (SA) is a board game by Czech game designer Vlaada Chvátil. Players are crew members on a spaceship and have to work together to save themselves from enemies and other dangers. The game is noteworthy in having two distinct phases; one real time phase in which all player actions are planned, and one where these actions are resolved. A ten minute CD soundtrack acts as the ship's computer, providing information on the different dangers threatening the ship. This soundtrack also serves as a time-limit; when it ends, the first phase of the game is complete and the players can no longer influence the outcome. The actions are planned in collaboration using cards, and gameplay is usually a frantic affair where players try to ensure they deal with all threats.

SA has an obvious pattern to promote camaraderie, MUTUAL ENEMIES. This gives all players the MUTUAL GOAL to OVERCOME these, and since SA is a *PvE* game with no other goals, all players are a TEAM that win or lose together. These mechanical patterns promote the dynamic ones of COOPERATION and TEAM PLAY. When COOPERATION leads to successful ends it can quite naturally give TEAM ACCOMPLISHMENT, and when this does not occur, it is still probably a MUTUAL EXPERIENCE.

The use of CARDS determines possible actions and gives each player a LIMITED SET OF ACTIONS. Since players cannot deal with all threats themselves, these mechanical patterns make the dynamic pattern COMMUNICATION necessary to achieve COOPERATION. The dynamic pattern COORDINATION and in turn TEAM COMBOS allow combined and thus more powerful attacks on enemies. The dynamic pattern UNMEDIATED SOCIAL

[1] Besides Wikipedia entries, www.boardgamegeek.com for Space Alert and Battlestar Galactica, left4dead.wikia.com for the Left 4 Dead series, and www.wowwiki.com for World of Warcraft.

[2] US Military slang abbreviation: "Fouled Up Beyond All Recognition"

INTERACTION from being face-to-face make the basis for the dynamic COORDINATION easy, but the mechanical patterns LIMITED SET OF ACTIONS and TIME LIMITS complicate this. The use of the mechanical pattern RANDOMNESS to determine enemy strikes can lead to the dynamic pattern SIMULTANEOUS CHALLENGES which adds further complexity to the COORDINATION. Although these patterns makes the game more difficult, they increase the value of the aesthetic pattern TEAM ACCOMPLISHMENT when it is achieved since it will to a greater extent be the result of the TEAM, rather than the individuals. They also allow players to take pleasure in TEAM STRATEGY IDENTIFICATION (which is a form of TEAM ACCOMPLISHMENT).

It may seem that the patterns that make TEAM ACCOMPLISHMENT more difficult are only there to increase the value of it when it occurs. However, this difficulty can in other ways promote the aesthetic pattern MUTUAL EXPERIENCES. Somehow managing to cope together in a chaotic situation can result in another aesthetic pattern, MUTUAL FUBAR ENJOYMENT: the appreciation of how the occurring challenges can be handled together although they might seem overwhelming. This related to the factor of the flow experience [8] of balancing skill and challenges but on a group level. Even failing can be entertaining if the failure is particularly memorable, e.g. through a rare or comical instantiation of SIMULTANEOUS CHALLENGES or everybody forgetting a vital detail. Although maybe culturally dependent, the experience of SPECTACULAR FAILURE ENJOYMENT can be more interesting to retell later than success stories due to their specificity, and are as such likely to be remembered as MUTUAL EXPERIENCES.

It is worth noting that these design solutions resides on a fragile balance between the patterns COMMUNICATION and COORDINATION on one side, and the patterns TIME PRESSURE and SIMULTANEOUS CHALLENGES on the other. If the balance starts to skew, it may instead result in too much TENSION, making the game experience unpleasant and can easily turn into one player being designated the SCAPEGOAT for the failure. The game design addresses this by introducing the game rules through three shorter and simpler missions whereby the teams become familiar with their ability to cooperate. When they know this, they can select missions of and appropriate difficulty, thus achieving a suitable amount of TIME PRESSURE and CHALLENGING GAMEPLAY.

3.2 Case Study: Left 4 Dead Series

The Left 4 Dead series (L4D) is a co-operative first-person shooter developed by Valve Corporation. It is set in a post-apocalyptic environment where most of humanity has succumbed to a rage-inducing sickness and the players take on the role of some of the few non-infected survivors. The gameplay focuses on traversing levels while surviving attacks by the infected.

The goals in L4D are strictly not MUTUAL GOALS since one player can be the only survivor and win. However, L4D presents SIMULTANEOUS CHALLENGES to trigger COOPERATION, resulting in ALLIANCES with the CONTINUOUS and SUPPORTING GOALS (which, unlike most Goal-patterns, are dynamic patterns) to help each other, sometimes at one's own expense. As a result, finishing levels is typically perceived as TEAM ACCOMPLISHMENTS; an aesthetic pattern. Unlike in SA the dynamic pattern COOPERATION occurs if players deliberately choose it. At the end of campaigns another dynamic pattern, BETRAYAL, may occur since only survivor gain campaign ACHIEVEMENTS and players may choose to ensure their own success rather than letting all players have some chance of success.

HELPLESSNESS is a basic mechanical pattern used as a penalty in L4D when players have been attacked by certain special infected, have fallen off ledges, or have lost all their health. This state gives rise to the dynamic pattern RESCUE which is typically given high priority since this is effectively a sub goal to the SUPPORTING GOAL mentioned above. Players may also do this to avoid becoming SCAPEGOATS for failures. An additional reason is to motivate the rescued player to repay the favor at a latter point, a dynamic pattern called DELAYED RECIPROCITY which, when it occurs provides TEAM ACCOMPLISHMENT. The possibility to hand over first aid kits and painkillers to those that need them better, i.e. having TRANSFERABLE TOOLS, shows another mechanical pattern which on a lesser scale supports these patterns.

Players typically have different functional roles in their team. This is not enforced, but the mechanical SELECTABLE FUNCTIONAL ROLES can be achieved by choosing different weapons. Although this COOPERATION creates TEAM COMBOS through the group being able to handle various situations more efficiently (e.g. sniping lone infected at long distances or meeting charging hordes in close-quarters battles) it makes the individual players more vulnerable to certain situations and requires COORDINATION. While successfully performing this can result in the aesthetic patterns TEAM STRATEGY IDENTIFICATION, MUTUAL FUBAR ENJOYMENT, and TEAM ACCOMPLISHMENT, it is harder to predict if failure will lead to SPECTACULAR FAILURE ENJOYMENT. For teams with high levels of skill, L4D allows various difficulty settings to provide CHALLENGING GAMEPLAY so that reaching TEAM ACCOMPLISHMENTS still feel meaningful.

COORDINATION is typically more difficult when one is not co-present. L4D partly addresses this through making players want to stick together due to HELPLESSNESS, which thereby makes coordination easier. However, the dark and often confusing environments make it easy to lose each other even when players try to stick together. The games use the mechanical pattern NON-DIEGETIC ELEMENTS to further COORDINATION, outlining the silhouette of the other players through walls (this is removed in the Realism mode of the second game, providing additional CHALLENGING GAMEPLAY). Even so, L4D also supports several different types of COMMUNICATION CHANNELS and have many OUTSTANDING FEATURES – both mechanical patterns – in the game world that can act as reference points. Through making the players aware of the other players' actions most of the time and making them moving in a group throughout the levels, the games promote the dynamic pattern VIRTUAL CO-PRESENCES between the players. This in turn means that players are likely to have MUTUAL EXPERIENCES from a game since they have observed most of the others' actions and know that the others' have observed their own actions.

3.3 Case Study: Battlestar Galactica

Battlestar Galactica: the Board Game (BSG), designed by Corey Konieczka and Eric M. Lang, is a board game based on the 2004 TV-series with the same name. In it, the last remnants of humanity are on a space odyssey looking for Earth after losing a nuclear war against the Cylons – hostile artificial beings created by the humans. Unfortunately, Cylons looking like humans have infiltrated the human fleet, wishing to annihilate the last survivors.

Like SA and L4D, BSG's gameplay revolves around prompting the dynamical patterns COMMUNICATION and COLLABORATION using the mechanical patterns TEAMS and MUTUAL ENEMIES in combination with ASYMMETRIC ABILITIES. As a result the

aesthetic patterns TEAM STRATEGY IDENTIFICATION and TEAM ACCOMPLISHMENT typically occur. The biggest twist in both the TV-series and the game rely on characters, thought to be humans, revealing themselves as Cylons. To facilitate this, the mechanical patterns RANDOMNESS in combination with secret loyalty CARDS distributed initially, evoke the dynamic pattern INHERENT MISTRUST from the start of the game, since players do not know which other players are human or Cylon. Players' loyalty may however change, since halfway through the game new loyalty CARDS are drawn and a player may realize that he or she is a Cylon (utilizing the diegetic idea of sleeper agents from the TV-series). The mechanical Traitor pattern can be regulated through other patterns; players can affect their chances of being TRAITORS since some characters draw more loyalty CARDS, which can be seen as another form of SELECTABLE FUNCTIONAL ROLES.

In general, everyone tries to gain the TRUST of other players by helping the humans in TEAM PLAY, using UNMEDIATED SOCIAL INTERACTION. However, the dynamical pattern BETRAYAL works against this. Much of the playing relies on subtle means of the two dynamic patterns COMMUNICATION and NEGOTIATION, to display that one is a TRUSTED COLLABORATOR. This can be achieved via INDIRECT INFORMATION such as certain actions based on information that only a few players have. The latter is especially delicate if two Cylon players try to secretly establish their relationship. Whilst really wanting to establish the ALLIANCE with their TRUSTED COLLABORATOR they still have much to gain from earning the TRUST of the other players, thus achieving more room to SABOTAGE the communal effort. SABOTAGE is often possible thanks to each player's unique ASYMMETRIC ABILITY, e.g. two characters have the right to manipulate the order of the crisis cards, thus influencing what will happen next; a powerful tool in combination with successful BLUFFING. Another aspect of the dynamic pattern BLUFFING is that a player, who is not yet Cylon, but is more likely than the others to become one due to the built-in, mechanical ASYMMETRIC ABILITIES, does not necessarily want the human team to do extremely well in the first phase of the game. Since BETRAYAL is so central to the gameplay, finding TRUSTED COLLABORATORS whose COOPERATION one can rely on can be very satisfying; a pair of TRUSTED COLLABORATORS can see themselves as a smaller TEAM within their TEAM, as such reaching their own TEAM ACCOMPLISHMENT, which will then be a strong MUTUAL EXPERIENCE for these players.

The close connection between the game and the TV-series, can – provided that players have seen the series – result in a very strong EMOTIONAL IMMERSION, another aesthetic pattern, as players identify with their characters and the humans' goal to save humanity. Besides establishing non-gameplay related sense of being a group, it can also result in a MUTUAL EXPERIENCE through encouraging the dynamic pattern ROLEPLAYING, both for fun and as a means to justify BLUFFING.

3.4 Case Study: World of Warcraft

World of Warcraft (WoW) is a massively multiplayer online roleplaying game published and distributed by Blizzard Entertainment. Set in the fantasy world of Azeroth, players create characters having different races, classes, talents, abilities, and equipment. A very common activity is to go on raids, entering dungeons as a group, having the goal to kill monsters to improve their characters and their inventory.

The raids in WoW consist of the mechanical patterns PvE challenges with MUTUAL ENEMIES which prompt the dynamic patterns COOPERATION and TEAM PLAY, resulting in the aesthetic pattern TEAM STRATEGY IDENTIFICATION between players. This primarily since the various classes and races open up for the mechanical patterns ASYMMETRICAL ABILITIES and SELECTABLE FUNCTIONAL ROLES – players need to ensure that these are compatible so they can achieve TEAM COMBOS.

Teams may be a result of DYNAMIC ALLIANCES but dedicated players often organize more stable ALLIANCES; this dynamic pattern is supported by the mechanical pattern SOCIAL ORGANIZATIONS in the form of support of guilds. Successfully completing raids are MUTUAL GOALS, and quite naturally lead to TEAM ACCOMPLISHMENTS and MUTUAL EXPERIENCES. The game also lets players select CHALLENGING GAMEPLAY based on the number of players, their skill and their characters' levels.

The need for COORDINATION typically leads to a need for VIRTUAL CO-PRESENCES between the raiding players and also helps strengthen their sense of MUTUAL EXPERIENCES. WoW supports this co-presence via the mechanical pattern NON-DIEGETIC ELEMENTS similar to L4D, here in the form of floating name tags above AVATARS and player-chosen raid target icons above ENEMIES. COORDINATION is also strived for by provision of COMMUNICATION CHANNELS.

Given the difficulty of COOPERATION and COORDINATION in raids with several dozens of players, such raids are however also are quite likely to become chaotic and might result in the aesthetic patterns MUTUAL FUBAR ENJOYMENT or SPECTACULAR FAILURE ENJOYMENT. To succeed, guilds often spend considerable time planning, training, and collecting equipment (i.e. TEAM STRATEGY IDENTIFICATION). Given that these activities also need to be performed in groups, another aesthetic pattern occurs: GUILTING, since some players may make other players participate even if they have other obligations or wishes, otherwise risking to be thrown out of the guild or become SCAPEGOATS. This, and that well-run guilds are typically wary of unfamiliar players that wish to join, give rise to the dynamic patterns EXCLUDING GROUPS and SOCIAL STATUSES.

Successful raids in WoW lead to the group acquiring loot. The distribution of which can become a sensitive issue due to the two mechanical patterns CHARACTER DEVELOPMENT and INCOMPATIBLE GOALS since some players may want the same piece of the loot. Many guilds develop loot systems; formalizations of PLAYER-DECIDED DISTRIBUTION OF REWARDS & PENALTIES, in response to this and to handle the dynamic pattern SOCIAL DILEMMA of what it good for the group vs. the individual. This is another example of how TEAM STRATEGY IDENTIFICATION can arise in WoW while when this does not work it can easily be interpreted as BETRAYAL.

4. NEW AESTHETIC PATTERNS

The previous sections introduced several new patterns in addition to using those from to the original collection [5], and its extensions. Due to space constraints we now only discuss new patterns on the aesthetic level, leaving out new mechanical and dynamic patterns as well as not describing already existing patterns that were classified as being aesthetic (e.g. TENSION and EMOTIONAL IMMERSION). The following sections are not presentations of the patterns according to the usual templates but should rather be seen as focal points for discussing how the gameplay ideal of camaraderie can be supported through design.

4.1 Team Strategy Identification

As has been argued elsewhere (e.g. [36]), a requirement for COOPERATION is not only agreeing to work together but also identifying *how* to work together. While the dynamic pattern of COOPERATION can be accomplished by the mechanical patterns ASYMMETRIC ABILITIES and LIMITED SET OF ACTIONS and can lead to the dynamic pattern TEAM PLAY, this may not strongly promote the aesthetic patterns TEAM ACCOMPLISHMENTS and MUTUAL EXPERIENCES since players do not need the dynamic pattern NEGOTIATION but can simply observe each other. In contrast, if combining the mechanical pattern SELECTABLE FUNCTIONAL ROLES with the dynamic pattern TEAM COMBOS players have to organize themselves to be as efficient as possible and thus these patterns promote TEAM STRATEGY IDENTIFICATION, which refers to the experience of successful NEGOTIATION when trying to find a strategy on the group level (rather than finding and agreeing to it).

The discussion required to achieve this can occur "outside" the game if the dynamic pattern UNMEDIATED SOCIAL INTERACTION is promoted or at least not inhibited, but otherwise requires the appropriate COMMUNICATION CHANNELS, and can in both cases be helped by OUTSTANDING FEATURES in the game world.

4.2 Team Accomplishments

This pattern is rather easily defined: the fulfillment experienced when accomplishing a shared goal or task. Being important in assuring functioning teams (c.f. [14] and [36]), this can be achieved via mechanical patterns such as MUTUAL GOALS but can also be promoted if the dynamic patterns TEAM PLAY and (successful) TEAM COMBOS are made to occur, e.g. via SIMULTANEOUS CHALLENGES. Additionally it is supported by another aesthetic pattern, TEAM STRATEGY IDENTIFICATION, regardless if the players reach the game goal or not.

This pattern is very sensitive to task difficulty – if a task can be solved by one player alone (either through actions or choices) such a solution will not be a team effort, nor will it be meaningful if the challenge is too easy. Thus TEAM PLAY must be afforded with mechanics like ASYMMETRIC ABILITIES, TRANSFERABLE TOOLS and similar patterns, but also the difficulty may need to be modified through CHALLENGING GAMEPLAY or SIMULTANEOUS CHALLENGES.

4.3 Guilting

GUILTING occurs when a player is made to do something due to feeling guilty or to avoid feeling guilty, making its definition narrower than the everyday use of the term and distinguishing it from SCAPEGOAT (i.e. simply giving a player the blame, but not necessarily provoking any action). In the context of creating camaraderie, using GUILTING is somewhat equivocal; on one hand it promotes the aesthetic pattern MUTUAL EXPERIENCES but at the same time it can make players play when they either do not want to or should not. The pattern can occur during gameplay, e.g. making players continue playing longer than intended, or making sacrifices for the good of the group, but GUILTING can also function as a meta-game pattern in making people choosing to play rather than doing something else. Consequently, GUILTING can be a cause for problematic usage of games (see [28] for a longer discussion on this in relation to games, and [12] for one from psychology in general).

4.4 Mutual FUBAR Enjoyment

Taking part of its name from a colloquial expression in the US military, this pattern occurs when challenges seem overwhelming and the players have a chaotic overview of the game state but still manage to handle the difficulties. It is strongly related to the flow factor [8] of balancing skill and challenges but on a group level.

This pattern requires a careful application of the CHALLENGING GAMEPLAY pattern (often augmented by the pattern SIMULTANEOUS CHALLENGES). If the difficulty is not high enough the game can become boring, but if it is too high it might simply lead to irritating failure, meaning that players do not reach any goals, MUTUAL GOALS or otherwise, and consequently do not experience TEAM ACCOMPLISHMENT*;* although they might still share a MUTUAL EXPERIENCE of failing. Thus only one aesthetic patterns is evoked and in a negative way. Another issue is that the players need to feel that they are handling the situation *together* which requires being aware of each other even though the game state is chaotic. One potential solution to this is giving certain players specific problems which other players need to solve (as shown for example in the use of the mechanic HELPLESSNESS resulting in the dynamic RESCUE in L4D, or to provide good COMMUNICATION CHANNELS and/or VIRTUAL CO-PRESENCE.

4.5 Spectacular Failure Enjoyment

This pattern reflects that a failure which distinguishes itself in some way – e.g. as the result of exceptional bad luck, gross ineptness or overwhelming opposition – can have an aesthetic quality of its own. Here, the magnitude of the failure lessens the fact that it was a failure and can probably in many cases be as entertaining as a victory, or at least results in a memorable occasion (an aesthetic experience in Dewey's [9] terminology) apt for retelling.

CHALLENGING GAMEPLAY is one way to promote SPECTACULAR FAILURE ENJOYMENT, either because the players find their misjudgment of opposition entertaining or because slight mistakes quickly made a situation spiral out of control. A second reason can be lack of COORDINATION, either in failure to take advantages of possible TEAM COMBOS or failure to meet SIMULTANEOUS CHALLENGES. Even if these patterns can give rise to SPECTACULAR FAILURE ENJOYMENT the relation is quite uncertain since the failures can just as well give rise to SCAPEGOAT. Another issue is that having the same type of failure many times is unlikely to be enjoyable. This gives the requirement that the failure should be unexpected and not have been experienced before, something difficult to design for in games which are intended to be replayed many times. using the mechanical pattern RANDOMNESS may lead to the desire type of SPECTACULAR FAILURE ENJOYMENT, either due to very unlikely combinations of the mechanical patterns CARDS, DICE, ENEMIES, etc. (and thereby extra CHALLENGING GAMEPLAY) or simply by allowing series of very unlucky die rolls.

4.6 Mutual Experiences

MUTUAL EXPERIENCES was the most abstract pattern found in the sense that no patterns was seen to be instantiated by it while the presence of any of several other aesthetic patterns gave rise to it; e.g. TEAM ACCOMPLISHMENTS, FUBAR ENJOYMENT and TEAM STRATEGY IDENTIFICATION. Noting a difference between mutual and common, MUTUAL EXPERIENCES has some specific requirements. First, players should perceive themselves as simultaneously taking part in an activity (which dynamic patterns like TEAM COMBOS promotes) which echoes the idea from Actor-Network-Theory [25] that the concept of social relates to tracing interactions. Second, they should be aware of what the others are doing (occurring natural in face-to-face gaming but also supported

by VIRTUAL CO-PRESENCES). Third, they should feel that they have the same intentions with what they are doing (which TEAM STRATEGY IDENTIFICATION and TEAM ACCOMPLISHMENTS can support).

Several of the patterns identified did not directly support MUTUAL EXPERIENCES, e.g. DELAYED RECIPROCITY, while others seemed to counter it, e.g. the dynamic patterns EXCLUDING GROUPS, BLUFFING, SOCIAL DILEMMAS and INHERENT MISTRUST. However, these patterns can modulate MUTUAL EXPERIENCES by requiring players to make the pattern emerge, and when this succeeds despite the aforementioned patterns, the pattern is stronger. For example, finding a TRUSTED COLLABORATOR in an environment of INHERENT MISTRUST will lead to a very strong sense of MUTUAL EXPERIENCE whilst the collaborators keep striving towards their MUTUAL GOAL.

MUTUAL EXPERIENCE is perhaps the aesthetic pattern most pertinent to the camaraderie ideal. It describes what gives the players something to talk about afterwards, e.g. reminisce about a TEAM ACCOMPLISHMENT or a SPECTACULAR FAILURE. Where most of the other aesthetic patterns are ephemeral, MUTUAL EXPERIENCES is lasting – the joy (or other associated emotions) of a mutual experience often last well after the associated event.

5. DISCUSSION

As the case studies illustrate, one can indeed apply a structure of mechanical, dynamic and aesthetic patterns onto a game, studying how basic mechanical patterns (related to components and rules) result in dynamic patterns (related to player actions) in turn evoking aesthetic patterns (related to experience). The case studies also suggest how camaraderie can be evoked by these patterns in other games. The MUTUAL EXPERIENCE pattern is perhaps the most important component of the ideal, being promoted in all the games and typically achieved by dynamics like COORDINATION and NEGOTIATION, but simultaneously requiring that players have UNMEDIATED SOCIAL INTERACTION or have a VIRTUAL CO-PRESENCE. The patterns of MUTUAL FUBAR ENJOYMENT and MUTUAL SPECTACULAR FAILURE ENJOYMENT show that failure does not necessarily impede camaraderie, although a safer design solution is TEAM ACCOMPLISHMENTS. TEAM STRATEGY IDENTIFICATION shows that COOPERATION can be a success in itself. COORDINATION and NEGOTIATION in turn are typically made necessary due to the mechanical patterns LIMITED SET OF ACTIONS, ASYMMETRIC ABILITIES and MUTUAL ENEMIES. The latter provides MUTUAL GOALS but these can also be created through TEAMS or ALLIANCES. Patterns such as TIME LIMITS and CHALLENGING GAMEPLAY make the COORDINATION more difficult but let groups have a stronger sense of camaraderie when they succeed. TRAITOR, INHERENT MISTRUST, and BETRAYAL likewise make COORDINATION more difficult but can result in finding a TRUSTED COLLABORATOR, and thereby lead to MUTUAL EXPERIENCES and TEAM ACCOMPLISHMENTS (for at least some of the players).

The above section suggests how pattern can bring about camaraderie in a design. However, others patterns show that designing for camaraderie typically also imply the presence of patterns that may result in negative emotions, e.g. HELPLESSNESS, BETRAYAL, GUILTING, or SCAPEGOAT. In some cases these may be justified since they strengthen another type of experience, e.g. TEAM ACCOMPLISHMENTS or TEAM COMBOS, but they also show that the ideal of camaraderie is not a completely positive one, as has been pointed out in other's research (c.f. [28] and [41] in relation to games such as WoW). This does not lessen the usefulness of these patterns, however. It is advantageous in general when designing to be able to more correctly foresee the effect of choices, and the identification of "negative" patterns lets designers of future games make active choices whether they want the possibly negative aspects to exist or not.

It is worth noting that the games analyzed support several aesthetic ideals besides camaraderie, e.g. the player adaptability ideal [30] for WoW. This indicates that the games also display other aesthetic patterns supporting other ideals, some which were identified but have not been discussed in this paper (e.g. SCHADENFREUDE in BSG). Further, some patterns can support almost any aesthetic ideal, e.g. TENSION or EMOTIONAL IMMERSION. These observations indicate that identified aesthetic gameplay design patterns can be used to design for several different aesthetic ideals, showing that they are more generally applicable that just in the context of one specific ideal.

Again one can ask what difference there is between patterns in general and *aesthetical* patterns. In the latter case, we think that any high-level pattern that is related to player experience can be aesthetic. As such it can be used as a tool in shaping a game meeting a certain aesthetic ideal. Arguably, some aesthetic patterns are so common that they are no longer related to a specific aesthetic ideal, e.g. TENSION, which is more or less present in any game, whereas others are highly specialized and can be used to evoke only one or a few ideals, e.g. MUTUAL FUBAR ENJOYMENT, affording camaraderie. This issue exists even on the mechanic and dynamic level, and show that the relevance of a pattern is to some degree dependent of the context in which it is to be used. In fact, the use of aesthetic ideals can function as a sieve – like it did in this paper – to determine which patterns are appropriate to use or not for a particular purpose.

Another insight regarding aesthetic patterns is that they are on a very high level of abstraction. What might be considered just variations or combinations of patterns, become entirely new patterns on this level – as an example look at SPECTACULAR FAILURE, SPECTACULAR FAILURE ENJOYMENT and MUTUAL SPECTACULAR FAILURE ENJOYMENT. With each added term comes a significantly different experience and different sets of relations to other patterns. This opens up for potentially endless variations of aesthetical patterns, further necessitating that researchers limit themselves and focus on the ideals they are looking for, but also opening a "second axis" of gameplay design patterns study.

Using the method of analyzing games in relation to a certain present aesthetic ideal has proven to be very fruitful, well beyond the limitations of this article. Looking at more games, especially if studying other ideals, would most likely result in the discovery and description of additional patterns; we have only described a fraction of all aesthetic patterns. Another aspect of future work in relation to this would be to look at aesthetical patterns from the gamers' perspective, since the aesthetic ideals and thus aesthetic patterns are very much based on their experience. Looking into different aspects of groups and togetherness, such as social presence, connectedness and interaction ritual (as suggested by [21]) could also be an interesting avenue of research.

6. CONCLUSION

In this paper we have explored how gameplay design patterns can be used to express design possibilities on an aesthetic level, exemplifying by the camaraderie ideal. Through the gameplay analyses of four games, we have shown that one can identify

gameplay design patterns as being on a mechanical, dynamic or aesthetic level. The relations between these shows that patterns can serve as a design tool when aiming for a specific gameplay aesthetics. Further, they present different options, uncover how seemingly contradictory patterns can support an aesthetic ideal, and show how some questionable patterns may appear as side effects. The new use of design patterns has also revealed new fields for harvesting patterns and perspectives to take when refining the existing collection.

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